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Transmittal



Washington State
Department of Transportation

Memorandum

July 19, 2007

TO: Doug Vaughn
MS: 47422

FROM: Tom Baker
709-5401

SUBJECT: Materials Laboratory Cost Recovery Rates for FY08

Attached is a book with a description of the development of the Materials Laboratory rates for Fiscal Year 2008. These rates were implemented effective July 1, 2007. This methodology is in compliance with OMB Circular A – 87, *Cost Principles for State, Local, and Indian Tribal Government*. This methodology has not changed since its implementation in July 1983.

These rates will need to be recalculated in September to reflect the salary changes that will be implemented in that period.

Materials Laboratory rates are charged through the Basic Accounting for Testing and Services, BATS, the Materials Laboratory billing systems. The same set of rates is used for all work orders.

Approved: _____
Doug Vaughn
Budget Director, Finance and Administration Division

Date: _____

TEB:ss

SJS

Attachment

cc: Bill Ford, F&A – 47400
Don Nelson, E&EP – 47324
Ron Lorentson, Budget Services – 47422

Washington State Department of Transportation
Materials Laboratory
Development of Cost Recovery Rates

Revised 07/07

Executive Summary

LABOR RATE SUMMARY AND COMPARISON

Activity	Rate Derivation	2007		2008	
		Reg Rate	OT Rate	Reg Rate	OT Rate
Lab Testing	R-1	\$ 89.15	\$ 98.40	\$ 101.62	\$ 111.86
Drafting and Data Analysis	R-2	\$ 93.82	\$ 105.07	\$ 101.28	\$ 111.38
Analysis, Reporting, and Review	R-3	\$ 100.34	\$ 114.22	\$ 113.81	\$ 128.87
Analysis, Reporting, and Review	R-3/2	\$ 50.17	\$ 57.12	\$ 56.90	\$ 64.44
Analysis, Reporting, and Review	R-3NB	\$ 37.97	\$ 40.46	\$ 39.13	\$ 41.83
Analysis, Reporting, and Review	R-3NW	\$ 47.49	\$ 50.96	\$ 49.45	\$ 53.22
Analysis, Reporting, and Review	R-3X2	\$ 200.68	\$ 228.46	\$ 227.61	\$ 257.74
Analysis, Reporting, and Review	R-3X5	\$ 501.71	\$ 571.13	\$ 569.04	\$ 644.35
Materials Inspection, HQ , No Travel	R-4	\$ 103.70	\$ 114.62	\$ 117.07	\$ 129.12
Materials Inspection, HQ, w/Travel	R-4T	\$ 114.40	\$ 125.32	\$ 127.60	\$ 139.65
Materials Inspection, Region	R-5	\$ 95.88	\$ 108.08	\$ 115.51	\$ 131.23
Materials Inspection, Region W/travel	R-5T	\$ 106.58	\$ 118.78	\$ 126.03	\$ 141.75
Prestress Inspection, HQ, No Travel,	R-6	\$ 97.42	\$ 110.17	\$ 110.61	\$ 124.51
Crosshole Sonic Testing	R-6CSL	\$ 125.80	\$ 137.78	\$ 126.12	\$ 139.07
Crosshole Sonic Testing with travel	R-6CSLT	\$ 136.50	\$ 148.48	\$ 136.64	\$ 149.60
Prestress Insp., HQ, In-State Travel,	R-6T	\$ 108.12	\$ 120.87	\$ 121.13	\$ 135.03
Assurance Inspection and Sampling	R-7	\$ 96.55	\$ 109.07	\$ 109.82	\$ 123.50
Plant Inspection, Production	R-8	\$ 93.83	\$ 105.15	\$ 102.82	\$ 113.60
Plant Insp w/trailer, one operator	R-8NW	\$ 96.77	\$ 106.12	\$ 127.04	\$ 137.69
Plant Insp w/trailer, two operators	R-8NW2	\$ 93.06	\$ 102.42	\$ 114.78	\$ 125.43
Plant Insp., Preliminary, PCC & ACP	R-8P	\$ 97.27	\$ 110.08	\$ 110.79	\$ 124.85
Equipment Inventory and Repair	R-9	\$ 89.54	\$ 98.96	\$ 98.61	\$ 107.56
Geotechnical Fieldwork	R-10	\$ 95.70	\$ 107.76	\$ 109.00	\$ 122.25
Field Soils Investigation w/o Equip	R-11	\$ 93.47	\$ 104.50	\$ 103.28	\$ 114.21
Soil ph & Resis	R-12	\$ 92.66	\$ 103.47	\$ 106.62	\$ 119.03
Pavement Coring, Single Operator	R-15P1	\$ 124.09	\$ 135.06	\$ 137.65	\$ 149.69
Pavement Coring, Two Operators	R-15P2	\$ 108.58	\$ 119.55	\$ 121.74	\$ 133.79
Traffic Control	R-16	\$ 96.22	\$ 108.59	\$ 105.75	\$ 117.79
Pavement Roughness Testing	R-17P1	\$ 192.34	\$ 200.07	\$ 234.47	\$ 244.44
Pavement Roughness Testing, No Travel	R-17P1NT	\$ 181.64	\$ 189.37	\$ 223.94	\$ 233.91

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Activity	Rate Derivation	2007		2008	
		Reg Rate	OT Rate	Reg Rate	OT Rate
Pavement Roughness Testing, Two Operators	R-17P2	\$ 144.41	\$ 152.14	\$ 173.03	\$ 183.00
Pavement Roughness Testing, Two Operators, No Travel	R-17P2NT	\$ 133.71	\$ 141.44	\$ 162.50	\$ 172.47
Pavement Friction Testing, Two Operators, with Travel	R-18	\$ 115.37	\$ 123.87	\$ 146.25	\$ 158.66
Pavement Friction Testing, Two Operators, No Travel	R-18NT	\$ 104.67	\$ 113.17	\$ 135.72	\$ 148.13
Pavement Friction Testing, Single Operator, No Travel	R-18SONT	\$ 121.93	\$ 130.43	\$ 164.83	\$ 177.24
Pavement Friction Testing, Single Operator, with Travel	R-18SOWT	\$ 132.63	\$ 141.13	\$ 175.35	\$ 187.76
Deflection Testing	R-20	\$ 301.80	\$ 316.42	\$ 309.87	\$ 325.55
Deflection Testing, No Travel	R-20NT	\$ 291.10	\$ 305.72	\$ 299.35	\$ 315.03
Geotechnical & Engineering Review	R-21	\$ 105.10	\$ 120.83	\$ 116.75	\$ 132.91
Pavement Rating	R-26	\$ 85.32	\$ 92.90	\$ 100.25	\$ 109.92

DRILLING RATE SUMMARY AND COMPARISON

Activity	Rate Derivation	2007		2008	
		Reg Rate	OT Rate	Reg Rate	OT Rate
Test Drilling, No Travel, Truck Mounted Drill	R-23NT-01	\$ 105.75	\$ 115.79	\$ 117.24	\$ 127.73
Test Drilling, No Travel, Heavy Duty Drill	R23NT-02	\$ 107.41	\$ 117.46	\$ 119.39	\$ 129.88
Test Drilling, No Travel, Dutch Cone	R23NT-03	\$ 113.84	\$ 123.88	\$ 121.83	\$ 132.32
Test Drilling, No Travel, Skid Drill	R23NT-04	\$ 107.36	\$ 117.40	\$ 118.61	\$ 129.10
Test Drilling, No Travel, Skid Drill - Water	R-23NT-05	\$ 125.92	\$ 135.96	\$ 142.26	\$ 152.75
Test Drilling, No Travel, Drilling Inspector	R-23NT-06	\$ 90.96	\$ 101.00	\$ 102.21	\$ 112.70
Test Drilling, No Travel, Field Exploration Supervisor	R-23NT-07	\$ 93.53	\$ 103.57	\$ 104.73	\$ 115.22
Test Drilling, No Travel, Extra Person on Crew	R-23NT-08	\$ 90.96	\$ 101.00	\$ 102.21	\$ 112.70
Test Drilling, with Travel, Truck Mounted Drill	R-23WT-01	\$ 116.45	\$ 126.49	\$ 127.77	\$ 138.26
Test Drilling, with Travel, Heavy Duty Drill	R-23WT-02	\$ 118.12	\$ 128.16	\$ 129.92	\$ 140.41
Test Drilling, with Travel, Dutch Cone	R-23WT-03	\$ 124.55	\$ 134.58	\$ 132.35	\$ 142.84
Test Drilling, with Travel, Skid Drill	R23WT-04	\$ 118.06	\$ 128.10	\$ 129.14	\$ 139.63
Test Drilling, with Travel, Skid Drill - Water	R23WT-05	\$ 136.62	\$ 146.66	\$ 152.78	\$ 163.27
Test Drilling, with Travel, Drilling Inspector	R23WT-06	\$ 101.66	\$ 111.70	\$ 112.74	\$ 123.23
Test Drilling, with Travel, Field Exploration Supervisor	R23WT-07	\$ 104.24	\$ 114.28	\$ 115.26	\$ 125.75
Test Drilling, with Travel, Extra Person on Crew	R23WT-08	\$ 101.66	\$ 111.70	\$ 112.74	\$ 123.23

Development of Cost Recovery Rates - Summary

INTRODUCTION

Cost recovery rates for Materials Lab Testing and Services are developed in two phases: 1) creation of *schedules*, which include common factors and calculations and 2) computation of *rates*, which combine the various schedules to form the final cost recovery charges.

This submission for cost recovery rates evaluated as of July 1, 2007, derives the schedules schematically and presents the format for the rate calculations.

The overall schedule and rate structure is unchanged from the previous submittal. In the discussion which follows, the rationale for the calculations will be presented and the sources of the particular information will be identified.

These cost recovery rates apply to all organizations within the consolidated Materials Laboratory: Lab, Drill Crew, and Inspection Section as well as the six individual region laboratories. Within this consolidated organization, many common tasks or activities are performed with different grade levels of staff depending on the available personnel within the organization. A major functional element is the weighted labor matrix for each activity. The information for this matrix is provided by analysis of each organization based on its own history and practices. From this combination, a weighted labor rate is computed. This weighted rate combined with other elements from the schedules forms the final cost recovery rate.

SUMMARY OF INDIVIDUAL RECOVERY RATES

Cost recovery rates are computed for each of a number of identified activities in the consolidated materials organization. Some of these activities are performed both in Headquarters and the Regions, some only occur in one area or another.

A summary of the numerical designations of the various activities and the work involved are provided for reference at the end of this section. Regardless of the locations, the basic structure is comprised of the weighted labor rate for the activity together with the appropriate overhead and/or equipment cost factors. *Three elements are common to all rates: the weighted labor cost, the non-chargeable labor cost, and the non-labor overhead cost.*

The weighted labor cost for each activity is determined by a labor rate matrix combining the staff level and classes used for that activity, wherever it is performed. This labor cost is unique for each activity, even though it may vary by only a minor amount from another activity. The non-chargeable labor cost is the same for all activities and is itself, derived from a labor rate matrix combining all the overhead personnel for the materials organization. The non-labor overhead is also the same for all activities and is based on the computed overhead items other than labor which support the total Materials organization. In compiling the various cost recovery rates, the first three items, then, are the same throughout.

1. Labor Cost
2. Non-chargeable Labor Costs (Schedule 1)
3. Non-labor Overhead Cost (Schedule 2)

A significant number of the cost recovery rates are comprised of only these three elements. The actual rates, however, vary because the labor rate matrix which determines the labor cost is specific for each category of service provided. The cost recovery rates which contain only these three elements are:

RATES COMPRISED SOLELY OF DIRECT AND INDIRECT LABOR AND OVERHEAD

Rate Code	Service Provided
R-1	Laboratory Testing
R-2	Drafting and Data Analysis
R-3	Analysis, Reporting and Review
R-5	Materials Inspection, Region
R-6R	Prestress Inspection, Region
R-6	Prestress Inspection, Service Center, No Travel
R-7	Assurance Sampling and Inspection
R-8	Plant Inspection, Production, PCC & ACP
R-8P	Plant Inspection, Preliminary, PCC & ACP
R-9	Equipment Inventory and Repair
R-10	Geotechnical Fieldwork
R-11	Field Investigation (without Equipment)
R-12	Membrane Resistivity, Soil pH & Resistivity
R-16	Traffic control
R-21	Geotechnical and Engineering Review
R-26	Pavement Rating

A second group of rates is developed by combining additional factors from the cost schedules to account for the specific equipment used, and for specific travel costs associated with the category of service provided. Since the development uses the same initial three factors, only the additional cost schedules involved are listed. These rates and their various components are as follows:

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RATES WHICH INCLUDE A DIRECT CHARGE FOR TRAVEL AND/OR EQUIPMENT

Rate Code	Service Provided and Additive
R-4	Materials Inspection, HQ, No Travel Vehicle Assigned Cost (Schedule 6)
R-4T	Materials Inspection, HQ with Travel Subsistence and Lodging (Schedule 4) Vehicle Assigned Cost (Schedule 6)
R-5T	Materials Inspection, Region with Travel Subsistence and Lodging (Schedule 4)
R-6T	Prestress Inspection, HQ, In-State Travel Subsistence and Lodging (Schedule 4) Vehicle Assigned Cost (Schedule 6)
R-6RT	Prestress Inspection, Region with Travel Subsistence and Lodging (Schedule 4)
R-6CSL	Crosshole Sonic Testing Vehicle Assigned Cost (Schedule 6) Equipment Cost (Schedule 15)
R-6CSLT	Crosshole Sonic Testing with travel Subsistence and Lodging (Schedule 4) Vehicle Assigned Cost (Schedule 6) Equipment Cost (Schedule 15)
R-8NWR	Plant Inspection with trailer, one operator Cost for Plant Inspection, NWR (Schedule 17)
R-8NWR2	Plant Inspection with trailer, two operators Cost for Plant Inspection, NWR (Schedule 17)
R-15P(1)	Pavement Coring, Single Operator Drill (Schedule 10)
R-15P(2)	Pavement Coring, Two Operators Core Drill (Schedule 10)
R-17P(1)	Pavement Roughness Testing, Profilometer, Single Operator Equipment Operated Cost (Schedule 12)
R-17NTP(1)	Pavement Roughness Testing, Profilometer Operator, No Travel Operated Cost (Schedule 12)
R-17P(2)	Pavement Roughness Testing, Profilometer, Double Operator Subsistence and Lodging (Schedule 4) Equipment Operated Cost (Schedule 12)
R-17NTP(2)	Pavement Roughness Testing, Profilometer, Double Operator, No Travel Equipment Operated Cost (Schedule 12)
R-18	Pavement Friction Testing Subsistence and Lodging (Schedule 4) Equipment Operated Cost (Schedule 14)
R-18NT	Pavement Friction Testing, No Travel Equipment Operated Cost (Schedule 14)
R-18SONT	Pavement Friction Testing, Single Operator, No travel Equipment Operated Cost (Schedule 14)
R-18SONT	Pavement Friction Testing, Single Operator, No travel Subsistence and Lodging (Schedule 4) Equipment Operated Cost (Schedule 14)
R-20	Deflection Testing Subsistence and Lodging (Schedule 4) Equipment Operated Cost (Schedule 13)
R-20NT	Deflection Testing Equipment Operated Cost (Schedule 13)

The third group of rates are designated the R-23 series which pertains to drilling activities. It isn't necessary to detail all of the individual combinations. The series combines the use of equipment of various types, with or without travel (subsistence and lodging). Travel costs for drilling services are calculated using a 4-day, 10-hour work week.

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SUMMARY OF LABOR ACTIVITIES ASSOCIATED WITH INDIVIDUAL RATES

RATE CODE	DESCRIPTION
R-1	<u>Lab Testing</u> - Sample determinations made in Region or Headquarters Lab. Performed by regular testing personnel including section head and supervisor. May include sample tests performed by progress sampler or Region Fabrication Inspector where no test report is issued.
R-2	<u>Drafting and Data Analysis</u> - Preparation of graphic material or computation of numerical data directly performed by the individual to include lab supervisors or lab technicians or drafters.
R-3	<u>Analysis, Reporting and Review</u> - Engineering analysis and review including preparation of engineering and Geotechnical reports, review of engineering plans and specifications, interpreting and analyzing field data. Performed generally by engineering personnel, section heads supervisors, Materials Engineer, and their principal assistants. May involve either office or field work and includes preparation and presentation of training. Also includes acceptance certification and review and Materials Engineer's and Section Head's activities in directing and performing field tests and studies.
R-4	<u>Materials Inspection (Headquarters) No Travel</u> - In plant or onsite inspection of fabricated materials by personnel of the Service Center inspection organization. Made within the local area not requiring overnight travel.
R-4T	<u>Materials Inspection (Headquarters) Travel</u> - Inspection as for rate R-4 but involving reimbursed overnight travel either in-state or out-of -state.
R-5	<u>Materials Inspection (Region)</u> - Inspection of Materials for acceptance by the Region Fabrication Inspector. Typically involves in-plant pre-cast or warehouse sampling.
R-5T	<u>Materials Inspection (Region), Travel</u> - Inspection as for rate R-5 but involving reimbursed overnight travel.
R-6R	<u>Prestress Inspection</u> - Inspection of pre-stressed concrete products during fabrication. Performed by an inspector assigned to a Region Materials Organization.
R-6RT	<u>Prestress Inspection, Travel</u> - Inspection as for rate R-6 but involving reimbursed overnight travel.
R-6	<u>Prestress Inspection (Headquarters) No Travel</u> - Inspection of pre-stressed concrete products by the staff of the HQ Fabrication Inspection section within the permanent duty station area.
R-6T	<u>Prestress Inspection (Headquarters) Travel</u> As Above, but on travel status.
R-6CSL	<u>Crosshole Sonic Logging</u> - Inspection with CSL equipment of concrete poured shafts.
R-6CSLT	<u>Crosshole Sonic Logging with Travel</u> - As above but on travel status.
R-7	<u>Independent Assurance Inspection and Sampling</u> - Activities of the Region Independent Assurance Inspector and assistants in conducting the independent assurance sampling and inspection duties set forth by the Construction Manual.
R-8	<u>Plant Inspection, Production PCC and ACP</u> - Inspection at an asphalt or concrete plant for work assigned to a specific contract. This type work would replace an inspection directly responsible to a specific project engineer.

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RATE CODE	DESCRIPTION
R-8P	<u>Plant Inspection, Preliminary PCC and ACP</u> - Inspection of a Concrete or asphalt plant for qualification of the facility for acceptance for state work. Does not involve sampling and testing of materials during production.
R-8NWR	<u>Plant Inspection with Trailer, one operator</u> -Provide acceptance for HMA at paver's asphalt plant with one tester.
R-8NWR2	<u>Plant Inspection with Trailer, two operators</u> - Same as above except with two testers.
R-9	<u>Equipment Maintenance and Repair</u> - Self-explanatory, may be chargeable directly to a construction project in the case of excessive or unusual damage or calibration. May also be chargeable to TEF through a specific equipment number with concurrence from Equipment Supt. Lab Testing equipment excluded.
R-10	<u>Geotechnical Fieldwork</u> - Field reading observation or test of a Geotechnical nature made by Technical level personnel.
R-11	<u>Field Soils Investigation without Equipment</u> - Inspection, evaluation and/or hand sampling for a soils or pavement investigation by technician personnel.
R-12	<u>Membrane Resistivity, Soil pH, Soil Resistivity</u> - Self-explanatory.
R-15P(1)	<u>Pavement Coring, Single Operator</u> - Inspection, evaluation and sampling requiring core drilling to obtain samples and/or data.
R-15P(2)	<u>Pavement coring , Two Operators</u> – Same as above except with two operators.
R-16	<u>Traffic Control</u> - Flagging and sign erection connected with other activities such as chloride sampling, pavement coring, drilling, or FWD operation.
R-17P2	<u>Pavement Roughness Testing, Video/Profiler(Double Operator)</u> - Performed by Headquarters Pavement section using the video/ profiler unit either pre-and post-construction or statewide inventory.
R-17P2NT	<u>Pavement Roughness Testing, Video/Profiler (Double Operator) No Travel</u> - Same as above except no travel.
R-17P1	<u>Pavement Roughness Testing Video/Profiler(Single Operator)</u> - Same as above except with a single operator.
R-17P1NT	<u>Pavement Roughness Testing, Video/Profiler, (Single Operator.) No Travel</u> - Same as above except no travel.
R-18WT	<u>Pavement Friction Testing</u> - Operation of friction test vehicle by HQ Pavement section either pre - and post- construction or statewide inventory.
R18NT	<u>Pavement Friction Testing, No, Travel</u> – Same as above except no travel.
R-18SOWT	<u>Pavement Friction Testing, Single Operator, with Travel</u> – Same as above except with single operator.
R-18SONT	<u>Pavement Friction Testing, Single Operator, No Travel</u> – Same as above except no travel.
R-20	<u>Deflection Testing</u> - Pavement investigation involving the Falling Weight Deflectometer (FWD).

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RATE CODE	DESCRIPTION
R-20NT	<u>Deflection Testing, No Travel</u> – Same as above except no travel.
R-21	<u>Geotechnical and Engineering Review</u> - Technical evaluation and study by the Region Materials Engineer and Assistant involving complex study and technical details.
R-23	<u>Drilling and Exploration Rates</u> - Varies according to the combination of, series personnel, and travel status.
R-26	<u>Pavement Rating</u> – Rating the condition of the pavement surface from digital images from the Pavement Condition Collection Van.

DEVELOPMENT OF COST RECOVERY RATES

SCHEDULES

	FY-07 Rates	FY-08 Rates
1 Non-chargeable Labor Cost	29.41	40.62
2 Lab Overhead Cost	18.09	20.21
4b Per Diem, 4X10 Workweek	9.96	10.53
6 Equipment Cost, Personnel Carrying Equipment, Materials Inspection	2.89	3.08
8 Assigned Cost, Drilling Support Equipment	2.41	2.52
10 Operated Cost Drilling Equipment Composite Rate		
a. Truck-Mounted Drill	11.45	12.51
b. Heavy Duty Drill	13.01	14.66
c. Dutch Cone	19.03	17.09
d. Skid Drill	24.37	13.88
e. Skid Drill, Barge (Water Work)	30.35	37.52
g1. Standard Core Drill, Single Operator	29.08	31.81
g2. Standard Core Drill, Two Operators	14.54	15.90
12P Pavement Roughness Measurement, Profilometer, Single Operator	89.85	122.88
12P2 Pavement Roughness Measurement, Profilometer, Dual Operator	44.92	61.44
13 Operated Cost, Deflectometer Vehicle	177.26	183.95
14a Operated Cost Skid Test Truck & Trailer, Single Operator	16.18	14.55
14b Operated Cost Skid Test Truck & Trailer, Dual Operator	32.36	29.10
15 Crosshole Sonic Logging	25.54	14.95

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	FY-07 Rates	FY-08 Rates
17a Plant Inspection, NWR, Single Operator	6.93	24.52
17b Plant Inspection, NWR, Dual Operator	3.47	12.26

EQUIPMENT RATES

Rates shown are Assigned rates unless equipment is charged for both Assigned and Operated, then both rates are shown and labeled.

Class	Description	FY-07	FY-08
1-10	Van; 6-9 Passenger	2.50	2.78
1-20	Utility Vehicle, Small, Light	2.70	3.10
2-2	Vans; Cargo	2.66	2.61
2-40	Van w/Road Profilometer	42.97	54.29
5-6	1 Ton; Crew Cab; 4 X 4	4.54	5.20
5-8	1 Ton; Crew Cab; 4 X 4 (DSL)	4.54	5.20
5-11	1/4 Ton, Reg or Extend Cab, 4 X 4	2.85	3.12
5-20	½ Ton; Reg or Extend; 4 X 4	3.28	3.94
8-1	Truck and Trailer; Skid Tester	11.48	27.22
8-23	Truck; Flatbed; Single Axle, without Crane	4.66	5.01
8-25	Truck, Flatbed; Tandem Axle, with Crane	9.13	9.13
9-1	Truck, w/Earth Drilling Unit	12.86	14.28
9-2	Drill Unit; Track Mounted	14.34	17.05
9-3	Drill Unit, Trailer Mounted	3.91	3.96
9-4	Drill Unit; Skid Mounted	4.78	8.17
9-5	Drill Unit; Skid Mounted; Air Mobile	5.98	4.98
9-22	Truck; Drill Unit Support	10.03	10.74
9-30	Truck; Electronic Cone Penetrometer,	9.99	6.81
10-5	Tilt Trailer, 2 Axle, 40,000 Lbs	1.64	1.53
20-11	Outboard Boat,	2.63	2.40
20-13	Barge Drill w/Pusher Skiff	3.69	6.21
21-26	Deflectometer, Trailer Mounted	2.46	2.46

SCHEDULE 1: NON-CHARGEABLE LABOR COSTS

The personnel breakdown was summarized from the Labor Rate Analysis forms submitted by the Regions and HQ Sections in June 2007. This breakdown is by Region and HQ for total

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FTE's, Non-chargeable Labor Cost FTE's, Production FTE's and Lab Testing FTE's.

The Non-chargeable Labor Costs includes labor cost of managers, supervisors, and support employees that perform tasks not chargeable to a specific WSDOT Work Order. Also includes production employees when performing non-chargeable tasks such as: work area and equipment cleaning, training, inventory, safety meetings, specification development, research, equipment verification, and other tasks not chargeable to a specific WSDOT work order.

DISTRIBUTION OF FTES

Region FTEs	Region Non-chargeable	Region Production	HQ FTEs	HQ Non-chargeable	HQ Production	Total FTEs	Total Non-chargeable	Total Production
71.9	34.2	37.6	154.8	69.1	85.7	226.7	103.4	123.3

The total FTEs engaged in production work which includes testing, analysis, reporting, review, drafting, data analysis, source approval, materials inspection, and test drilling is 123.3.

CALCULATING NON-CHARGEABLE HOURLY RATES

Class Code	CLASS	RANGE	STEP L	REG RATE	OT RATE	Non-chargeable FTEs	Non-chargeable Extension
11	STATE MATERIALS ENGR	WMS4	\$10,138	\$85.43	\$116.38	1.0	85.43
WMS3	NWR MATERIALS ENGINEER	WMS3	\$8,210	\$69.38	\$90.37	0.9	62.44
WMS2	REGION MATERIALS ENGR	WMS2	\$7,141	\$60.99	\$78.97	3.4	205.54
WMS4	ASST MATERIALS ENGR - STATE LAB	WMS4	\$9,029	\$76.09	\$102.22	2.8	213.05
WMS2	ASST MATERIALS ENGR - REGION	WMS2	\$6,728	\$57.98	\$74.87	1.1	60.88
WMS3	SECTION HEADS	WMS3	\$8,143	\$69.19	\$90.10	4.2	287.14
WMS2	ASST SECTION HEADS	WMS2	\$7,522	\$64.34	\$83.50	3.3	211.68
66200	TRANS ENGR 5	69	\$6,943	\$59.65	\$77.14	2.1	122.28
66204	TR TECH ENGR 5	69	\$6,943	\$59.65	\$77.14	5.2	308.39
WMS2	ASST BIT MIX ENGR	WMS2	\$7,357	\$62.62	\$81.16	0.9	58.86
66180	TRANS ENGR 4	65	\$6,290	\$54.57	\$70.25	6.6	362.34
66160	TRANS ENGR 3	61	\$5,699	\$49.96	\$64.02	10.6	529.58
66140	TRANS ENGR 2	57	\$5,163	\$45.79	\$58.20	14.1	644.27
66100	TRANS TECH 3 &						
66120	TR ENGR 1	53	\$4,676	\$41.99	\$52.77	8.0	336.34
66080	TRANS TECH 2	48	\$4,131	\$37.74	\$46.68	4.9	183.47
66060	TRANS TECH 1	42	\$3,560	\$33.29	\$40.31	1.9	64.30
53830	CHEMIST 3	60	\$5,557	\$48.85	\$62.51	0.8	39.08
60320	ELECTRICAL ENGR 4	72	\$7,477	\$63.81	\$82.77	0.9	57.43
60300	ELECTRICAL ENGR 3	65	\$6,290	\$54.57	\$70.25	0.8	40.93
7284C	TRANS SYS TECH C	59E	\$5,426	\$47.83	\$61.13	0.5	23.92
WMS2	MATERIALS LAB BUSINESS MGR	WMS2	\$6,946	\$59.65	\$77.14	1.0	59.65
100Q	SECRETARY, SUPERVISOR	40	\$3,391	\$31.98	\$38.42	1.0	31.98
143I	FISCAL ANALYST 1	40	\$3,391	\$31.98	\$38.42	1.0	31.98
143J	FISCAL ANALYST 2	52	\$4,562	\$41.10	\$51.49	2.0	82.20

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Class Code	CLASS	RANGE	STEP L	REG RATE	OT RATE	Non-chargeable FTEs	Non-chargeable Extension
100K	OFFICE ASSISTANT LEAD	33	\$2,863	\$27.86	\$32.53	0.0	0.00
100J	OFFICE ASSISTANT 3	31	\$2,734	\$26.86	\$31.09	7.1	189.36
77970	SUPPLY OFFICER 2	51	\$4,453	\$40.25	\$50.27	1.0	40.25
1000	SECRETARY SENIOR	33	\$2,863	\$27.86	\$32.53	5.1	142.64
75720	PLANT MANAGER 2	60G	\$5,557	\$48.85	\$62.51	1.0	48.85
626L	MAINT MECH 3	49G	\$4,237	\$38.57	\$47.87	1.0	38.57
626J	MAINT MECH 1	42G	\$3,560	\$33.29	\$40.31	1.8	59.92
261C	LIBRARY & ARCHIVAL PROF 3	53	\$4,676	\$41.99	\$52.77	0.8	33.59
3286	IT SYSTEMS/APPLICATION SPEC 6	70	\$7,116	\$60.99	\$78.97	1.0	60.99
479M	INFO TECH SPEC 5	66	\$6,446	\$55.77	\$71.89	3.0	167.31
03293	INFO TECH SPEC 3	58	\$5,289	\$46.76	\$59.61	0.8	37.41
479J	INFO TECH SPEC 2	54	\$4,792	\$42.89	\$54.06	2.0	85.78
Non-Chargeable Rate:				\$ 40.62	Totals:	103.4	\$5,007.83

The distribution of the Non-chargeable Labor Rate is made by dividing the combined labor cost extension for Non-chargeable Labor by the total of production FTEs.

Calculation

$$\frac{\text{Labor Cost Extension}}{\text{Total FTEs}} = \frac{\$5007.83^1}{123.3} = \underline{\underline{\$40.62/\text{hour}}}$$

SCHEDULE 2: LABORATORY OVERHEAD

Materials lab overhead is defined as expenditures, other than labor, that cannot be direct charged to projects. The steps for determining Materials Lab overhead is summarized as follows:

1. Determine expenditures (excluding labor) for the previous fiscal year – this is the “baseline”
2. Make line item adjustments to the baseline for major differences or changes in expenditures when comparing the baseline to the coming year (e.g. a new project of significant expense such as document imaging)
3. Subtract equipment and travel costs that will be recovered through the rates
4. Apply an inflation factor to those expenditures that were “carried forward” from the previous fiscal year (i.e. excludes expenditures from step 2 & 3)
5. Add up the total annual overhead (i.e. inflation adjusted expenditures and line items)
6. Divide the total by the number of production FTEs (per schedule 1)
7. Divide the result by number of hours a production hours in a year (1,790) to determine the hourly overhead rate

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FY 2008 CALCULATION (SEE APPENDIX A FOR DETAILS)

Previous Year Expenditures (Baseline)	\$ 5,373,902
Less Equip & Travel Recovered Through Rates	\$1,271,181
Unadjusted Overhead Costs	\$4,102,721
Plus Net Line Item Adjustments:	\$289,071
Adjusted Overhead Costs	\$4,400,730
Inflation (per Implicit Price Deflator, 1.9% in 2008)	\$83,614
Inflation Adjusted Overhead Costs	\$4,460,875
Divided by Number of Production FTEs	<u>123.3</u>
Overhead Cost per Production FTE	\$36,180
Divided by Production Hours in Year	<u>1790</u>
Hourly Lab Overhead Rate	\$20.21

SCHEDULE 4: PER DIEM

Subsistence (median)					Lodging (median)			Combined Cost		
	Breakfast	Lunch	Dinner	Subtotal	Nights Stay	Cost/Night	Total Lodging	Total	Nightly	Hourly
Mon		16.00	24.00	40.00						
Tue- Wed	14.00	16.00	24.00	108.00						
Thu	14.00	16.00		30.00						
		\$ 178.00			3	81	\$ 243.00	\$ 421.00	\$ 140.33	\$ 10.53

SCHEDULE 6: MATERIALS INSPECTOR VEHICLES

Vehicle Type	Category	No. of Vehicles	Assigned Hourly Rate	Assigned Yearly Rate	Cost Per Labor Hour
MiniVan	01-10	8	2.78	44,658	
Pickup	05-11	1	3.12	6,265	
SUV	01-20	4	3.10	24,899	
				\$ 75,822	\$ 3.08

Personnel Carrying Equipment: Materials and Prestress Inspection Equipment rates for FY 02 only have assigned cost for class 1 thru 5. Rate for cost recovery can be obtained by factoring assigned cost against expected work time and weighting based on the units assigned to inspector use.

Calculation

Assigned rate x number of units x 2,008 hours, based on 2,008 hour/ year assigned time

Notes:

1. *Based on 2,008 hr/year/piece equipment.*
2. *Personnel engaged in materials and prestress inspection*
3. *Number of hours per labor-year.*

SCHEDULE 8: ASSIGNED COST DRILLING SUPPORT EQUIPMENT

Category	Vehicle Type	No.	Assigned Hourly Rate	Assigned Yearly Rate	FTEs Direct Charged	Cost Per FTE	Cost Per Labor Hour
5-6	4X4, 1 Ton Crew Cab	2	5.20	20,883			
5-8	4X4,1Ton,CrwCab,Dsl	4	5.20	41,766			
5-11	4X4, 1/4 Ton	2	3.12	12,530			
5-20	4X4, 1/2 Ton	1	3.94	7,912			
				\$ 83,091	18.41	\$ 4,513.36	\$ 2.52

Calculation

Cost per labor hour equals assigned rate x number of units x 2,008 hours, based on 2,008 hour/ year assigned time. Drilling rates calculated on basis of cost recovery for 2-person crew with inspector as separate charge.

Notes:

1. *Based on 2,008 hr/year/piece equipment.*
2. *Total personnel involved in test drilling (8 crews, driller and helper only, 3 Field Exploration Supervisor))*
3. *Number of hours per labor-year.*

SCHEDULE 10: DRILLING EQUIPMENT OPERATED AND ASSIGNED COST

Starting in FY06, equipment in TEF was charged only assigned time. This assigned time is based on 2008 hour in a year. All major drilling equipment except for the Dutch Cone and Air Mobil skid drill is figured at 100% usage.

- Dutch Cone(B-61) 19%
- Truck Mounted Drill (BK-81) 100%
- Heavy Duty Drills 100%
- Skid Drills (09 – 04) 100%
- Skid Drill, Air Mobile(09 – 05) 19%
- Support Trucks 100%

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10A - TRUCK-MOUNTED DRILL

10a - Truck - Mounted Drill	Subclass	Description	Assigned Rate	Equip Total	No in Crew	Per Hour Charge
	09-01	CME 55	14.28			
	09-22	Support Truck	\$ 10.74			
				\$ 25	2	\$ 12.51

10B - HEAVY DUTY DRILLS

There are two types of equipment which have substantial ability to increase production. These will be used for the more demanding drilling assignments.

The track-mounted CME drill (Subclass 9-2) requires a trailer (subclass 10-5). The trailer assigned cost is redistributed to an operated cost as follows:

10b - Heavy Duty Drill	Subclass	Description	Assigned Rate	Equip Total	No in Crew	Per Hour Charge
	9-22	Support Truck	10.74			
	10-5	Trailer	1.53			
	9-2	CME Drill (850)	17.05			
				\$ 29	2	\$ 14.66

10C. - DUTCH CONE

In the past, the Dutch Cone was mounted as an accessory on 08L47001, the B-61 truck mounted drill. The new Dutch Cone is a self contained unit and is only used for Dutch Cone work. Redistribution of the test cone assigned cost is based on 19% usage.

10c - Dutch Cone	Subclass	Description	Assigned Rate	Hours of Use	No in Crew	Per Hour Charge
	09-30	Dutch Cone	6.81	400	2	
				400	2	\$ 17.09

10D. - SKID DRILL

While capable of significantly different production rates, these two types of units have similar costs.

10d - Skid Drill	Subclass	Description	Assigned Rate	Hours of Use	Annual Cost	No in Crew	Per Hour Charge
	9-4	Drill (3)	8.17	2,008	8.17		
			8.17	2,008	8.17		
			3.91	2,008	3.91		
	9-5	Skid Drill, Air Mobile	4.98	400	25.00		
		Roll Up - Drill	5.23	6,424	7.89		
	9-22	Support Truck	10.74	2,008	10.74		
	8-25	Boom Truck	9.13	2,008	9.13		
				\$ 27.76		2	\$ 13.88

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10E. - SKID DRILL - WATER WORK

This activity requires auxiliary floating and support equipment in addition to the drill unit.
Estimated usage is 464 hours per year.

10e - Tripod or Skid Drill - Water Work	Subclass	Description	Assigned Rate	Hours of Use	Adjusted Rate	No in Crew	Per Hour Charge
	9-04	Drill (3)	8.17	2,008	8.17		
			8.17	2,008	8.17		
			3.91	2,008	3.91		
		Roll Up - Drill	20.25	6,024	6.75		
	9-22	Support truck	10.74	2,008	10.74		
	20-11	Outboard boat	2.40	464	10.39		
	8-23	Flatbed truck	5.01	1,400	7.19		
	25-2	Generator	1.50	464	6.49		
	20-13	Barge, Pontoon	6.21	464	26.87		
	10-5	Trailer	1.53	464	6.62		
					\$ 75.05	2	\$ 37.52

INCIDENTAL DRILLING - REGION PAVEMENT CORING

The class 5 vehicles used to transport the core drills are distributed over the laboratory overhead leaving the recovered cost item to be the core drill itself. Depending on the operation, the core drill can be operated by either a single operator or with two operators.

SCHEDULE 10G – STANDARD CORE DRILL, CLASS 9 – 3, TRAILER MOUNTED DRILL

Single Operator

10g1 - Standard Core Drill	Subclass	Description	Assigned Rate	Hours of Use (BATS)	Adjusted Rate	No in Crew	Per Hour Charge
	9-3	Trailer Mounted Drill	3.96	250	31.81	1	
					\$ 31.81	1	\$ 31.81

Dual Operator

10g2 - Standard Core Drill	Subclass	Description	Assigned Rate	Hours of Use (BATS)	Adjusted Rate	No in Crew	Per Hour Charge
	9-3	Trailer Mounted Drill	3.96	250	31.81	2	
					\$ 31.81	2	\$ 15.90

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SCHEDULE 12: PAVEMENT ROUGHNESS MEASUREMENT, PROFILOMETER EQUIPMENT

Single Operator

Status	Subclass	Description	Assigned Rate	Hours of Use (BATS)	Adjusted Rate	No in Crew	Per Hour Charge
Active	02-40	Profilometer	54.29	763	142.84	1	
D Final	02-40	Profilometer	4.09	191	43.04		
			\$ 58.38	954	\$ 122.88	1	\$ 122.88

Dual Operator

Status	Subclass	Description	Assigned Rate	Hours of Use (BATS)	Adjusted Rate	No in Crew	Per Hour Charge
Active	02-40	Profilometer	54.29	763	142.84	2	
D Final	02-40	Profilometer	4.09	191	43.04		
			\$ 58.38	954	\$ 122.88	2	\$ 61.44

SCHEDULE 13: OPERATED COST, DEFLECTOMETER VEHICLE (FWD)

Subclass	Description	Assigned Rate	Hours of Use (BATS)	Adjusted Rate	No in Crew	Per Hour Charge
2-2	Van	2.61	56	93.59	1	
21-26	FWD	2.52	56	90.36	1	
				\$ 183.95	1	\$ 183.95

SCHEDULE 14: OPERATED COST SKID TEST TRUCK AND TRAILER

Subclass	Description	Assigned Rate	Hours of Use (BATS)	Adjusted Rate	No in Crew	Per Hour Charge
08-01	Truck, Skid Test	27.22	1,088	50.24		
10-40	Trailer, Skid Test	4.32	1,088	7.97		
		\$ 31.54	1,088	\$ 58.21	2	\$ 29.10

SCHEDULE 15: CROSSHOLE SONIC LOGGING SYSTEM

Subclass	Description	Assigned Rate	Hours of Use (BATS)	Adjusted Rate	No in Crew	Per Hour Charge
40-07	SL System	2.10	282	14.95	1	
40-07	SL System	2.10	282	14.95	1	
		\$ 4.20	564	\$ 14.95	1	\$ 14.95

Schedule 16: Nuclear Gage Testing

SCHEDULE 16A - NUCLEAR GAGE WIPE TEST

Subclass	Description	Cost	R-3 Rate	R-3 OT Rate	Hrs to Complete	Per Unit Charge	OT Per Unit Charge
NA	Wipe Test Kit	21.00				21.00	21.00
NA	Direct Charge		102.67	115.74	0.25	25.67	28.93
						\$ 46.67	\$ 49.93

SCHEDULE 16B - NUCLEAR GAGE BADGE TEST

Subclass	Description	Cost	R-3 Rate	R-3 OT Rate	Hrs Per Quarter	No of Badges	Per Unit Charge	OT Per Unit Charge
NA	Badges	75.00					18.75	18.75
NA	Direct Charge		102.67	115.74	24.00	134.00	18.39	20.73
							\$ 37.14	\$ 39.48

SCHEDULE 17-1: COSTS FOR PLANT INSPECTION-NWR

Subclass	Description	Quantity	Assigned Rate	Annual Cost	Yearly Usage (BATS)	Hourly Rate for 1 Operator
10A25	Lab Trailers	1	1.95	3,915.60		
40-03	ACP Vacuum Test Kit	2	0.18	722.88		
41-11	Portable Counter Top Oven	2	0.16	642.56		
41-7	Gyratory Compactor	1	1.14	2,289.12		
41-03	Sieve Shaker	1	0.13	261.04		
41-19	Aggregate Test Kit	1	0.12	240.96		
41-33	NCAT Asphalt Content Tester	1	0.35	702.80		
40-02	Electronic Balance	2	0.08	321.28		
42-02	SE Shaker	1	0.06	120.48		
	Utilities			440.00		
	Propane			50.00		
				\$ 9,706.72	396	\$ 24.52

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SCHEDULE 17-2: COSTS FOR PLANT INSPECTION-NWR

Subclass	Description	Quantity	Assigned Rate	Annual Cost	Yearly Usage (BATS)	Hourly Rate for 2 Operators
10A25	Lab Trailers	1	1.95	3,915.60		
40-03	ACP Vacuum Test Kit	2	0.18	722.88		
41-11	Portable Counter Top Oven	2	0.16	642.56		
41-7	Gyratory Compactor	1	1.14	2,289.12		
41-03	Sieve Shaker	1	0.13	261.04		
41-19	Aggregate Test Kit	1	0.12	240.96		
41-33	NCAT Asphalt Content Tester	1	0.35	702.80		
40-02	Electronic Balance	2	0.08	321.28		
42-02	SE Shaker	1	0.06	120.48		
	Utilities		-	440.00		
	Propane		-	50.00		
				\$ 9,706.72	396	\$ 12.26

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Appendix – FY08 Non Labor Expense Rates

Obj Code	Description	Total Dollars FY07	Fab Inspection	Drill Crew	FWD	Skid & Profiler	Core Drills	Other (-)	Other (+)	Totals FY 2008	Totals with 1.9% Inflation	
C	Personal Service Contracts	10,858								10,858	11,064	
EA	Supplies and Materials	527,905								527,905	537,935	
EB	Communications	129,530								129,530	131,991	
ED	Rentals and Leases	1,597,430	14,772	582,758	6,567	119,492	8,939			873,841	890,444	
EE	Repairs, Alterations and Maintenance	170,011							50,000	220,011	224,191	
EF	Printing Services	11,508								11,508	11,727	
EG	Employee Prof Development & Training	60,004								60,004	61,144	
EJ	Subscriptions	2,056								2,056	2,095	
EM	Attorney General Services	21,451								21,451	21,858	
ER	Purchased Services	1,165,700						1,165,700	1,235,188	1,235,188	1,235,188	*
ES	Vehicle Maintenance and Operating Costs	19,654								19,654	20,027	
EW	Archives & Records Management Services	16,370								16,370	16,681	
EZ	Other Goods and Services	3,812								3,812	3,885	
GA	In-State Subsistence and Lodging	534,355	34,692	378,280	918	16,666		25,703		78,096	79,580	
GB	In-State Air Transportation	7,990								7,990	8,142	
GC	Private Automobile Mileage	24,011	1,687	908		53				21,362	21,768	
GD	Other Travel Expenses	41,367	2,171	1,783	13	3,331				34,069	34,716	
GF	Out-of-State Subsistence and Lodging	49,696	9,517	431	738					39,011	39,752	
GG	Out-of State Air Transportation	25,996								25,996	26,490	
GN	Motor Pool Services	305,022	75,808	5,584	6,074					217,557	221,691	
JA	Non Capitalized Assets	405,222						159,135	184,421	430,507	438,687	
JC	Furnishings, Equipment and Software	142,077						80,000	250,000	312,077	318,006	
JK	Architectural and Engineering Services	29,730								29,730	30,295	
N	Grants, Benefits and Client Services	875								875	892	
P	Debt Services	34,886								34,886	35,549	
TE	Goods and Services	36,387								36,387	37,078	
	TOTAL	5,373,902	138,647	969,744	14,310	139,542	8,939	1,430,538	1,719,609	4,400,730	4,460,875	
										Production FTEs		123
	* Not Inflated, known or estimated cost									Hourly Non Labor Expense Rate		\$20.21